



**6712-01**

**FEDERAL COMMUNICATIONS COMMISSION**

**47 CFR Part 73**

**[MB Docket No. 13-249; FCC 18-139]**

**Revitalization of the AM Radio Service**

**AGENCY:** Federal Communications Commission.

**ACTION:** Proposed rule.

**SUMMARY:** In this document, the Commission adopted a Second Further Notice of Proposed Rulemaking (*Second FNPRM*), in which it sought comment on alternative revised proposals to change the interference protection given to Class A AM radio broadcast stations. These proposals were revised based on responses to the Further Notice of Proposed Rule Making in this proceeding.

**DATES:** Comments may be filed on or before **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]** and reply comments may be filed on or before **[INSERT DATE 90 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** You may submit comments, identified by MB Docket No. 13-249, by any of the following methods:

- Federal Communications Commission's Web Site: <http://apps.fcc.gov/ecfs/>. Follow the instructions for submitting comments.
- People with Disabilities: Contact the FCC to request reasonable accommodations (accessible format documents, sign language interpreters, CART, etc.) by e-mail: [FCC504@fcc.gov](mailto:FCC504@fcc.gov) or phone: 202-418-0530 or TTY: 888-835-5322.

For detailed instructions for submitting comments and additional information on the rulemaking process, *see* the SUPPLEMENTARY INFORMATION section of this document.

**FOR FURTHER INFORMATION CONTACT:** Albert Shuldiner, Chief, Media Bureau, Audio Division, (202) 418-2700; Thomas Nessinger, Senior Counsel, Media Bureau, Audio Division, (202) 418-2700. For additional information concerning the Paperwork Reduction Act (PRA) information collection requirements contained in this document, contact Cathy Williams at 202-418-2918, or via the Internet at [Cathy.Williams@fcc.gov](mailto:Cathy.Williams@fcc.gov).

**SUPPLEMENTARY INFORMATION:** This is a summary of the Commission's Second Further Notice of Proposed Rulemaking (*Second FNPRM*), MB Docket No. 13-249; FCC 18-139, adopted and released on October 5, 2018. The full text of this document will be available for public inspection and copying via ECFS, and during regular business hours at the FCC Reference Information Center, Portals II, 445 12<sup>th</sup> Street, SW, Room CY-A257, Washington, DC 20554. The full text of this document can also be downloaded in Word or Portable Document Format (PDF) at <http://www.fcc.gov/ndbedp>.

## **Synopsis**

1. The 73 Class A AM stations in the United States are authorized to broadcast at up to 50 kW both day and night and, by current rule, are designed to render primary and secondary service over extended areas and are afforded extensive daytime and nighttime protection from interference by co- and adjacent-channel AM stations. Currently, Class A AM stations in the continental United States are protected during the day to their 0.1 mV/m groundwave contour from co-channel stations, and to their 0.5 mV/m groundwave contour from adjacent-channel stations. At night, such Class A stations are protected to their 0.5 mV/m-50 percent skywave contour from co-channel stations and to their 0.5 mV/m groundwave contour from adjacent-

channel stations.

2. In the Further Notice of Proposed Rulemaking (*AMR FNPRM*), FCC 15-142, 30 FCC Rcd 12145, 81 FR 2818, Jan. 19, 2016, in this AM Revitalization proceeding, the Commission recognized that many of the areas previously receiving only Class A secondary service are now served by FM stations and smaller, more local AM stations. 30 FCC Rcd at 12168, 12170, paras. 51, 55. In the latter case, local AM service is often curtailed by the need for a local AM station to protect a (sometimes distant) Class A station's service. The Commission therefore tentatively concluded in the *AMR FNPRM* (1) that all Class A stations should be protected, both day and night, to their 0.1 mV/m groundwave contour, from co-channel stations, thus maintaining daytime protection but reducing protection to secondary coverage service areas at night; (2) that all Class A stations should continue to be protected to the 0.5 mV/m groundwave contour, both day and night, from first adjacent channel stations; and (3) that the critical hours protection of Class A stations should be eliminated completely. The Commission sought comment on these proposals.

3. The *AMR FNPRM* proposals attracted voluminous and diverse comments. The licensees of Class A stations, represented primarily by the AM Radio Preservation Alliance (AMRPA), argue against the proposals and in favor of retaining the current protection rules. AMRPA argues that the Commission's proposal would do "significant harm" to the AM band by creating new interference, and point out the vital role that Class A stations have played in prior emergencies, such as Hurricane Katrina, noting further that 25 such stations are Primary Entry Points (PEPs) for the Integrated Public Alert and Warning System (IPAWS), 22 of which have been outfitted by the Federal Emergency Management Agency (FEMA) to improve operating capability in national emergencies. A number of other commenters joining AMRPA in opposing

the *AMR FNPRM* proposal agree that the proposal would reduce those stations' utility during national emergencies. Others contend that the proposal will increase nighttime interference in exchange for little in the way of increased nighttime coverage for less-powerful stations, while still others object to losing the ability to listen to distant signals for extended time periods.

4. On the other hand, a number of commenters supported the Commission's proposal. Many believe that Class A AM stations' current protected status may be an anachronism with little relevance to a world with more FM stations, the Internet, and other forms of communications. Some licensees of AM stations that must reduce nighttime power to protect Class A stations wish to improve their local nighttime service. Some point out that the extended skywave service that Class A licensees seek to protect has become increasingly unreliable and prone to interference, particularly given high environmental noise floors caused by various sources of radiofrequency noise. Many also criticize some of the opponents' calculations of potential signal losses due to the proposed rule changes, questioning opponents' technical showings. As for emergency communications, some commenters note that Class A stations seldom broadcast weather or other alerts for distant areas beyond their immediate communities of license, and thus contend that it is more valuable for local stations to have the ability to broadcast emergency alerts and other locally relevant emergency information at night.

5. A third category of commenters believe that changes to Class A protections are necessary, but do not believe the Commission's proposals to be the correct approach. Most share certain premises: that a 0.1 mV/m signal is not listenable under most circumstances; that nighttime skywave service is sporadic and unreliable; and that the wide-area coverage of Class A stations written into the rules should be preserved to at least some extent. At the same time, these commenters propose solutions that they believe will offer some relief to AM broadcasters

currently protecting Class A stations that are sometimes many hundreds of miles away.

6. The majority of these commenters propose instead that Class A stations be protected to their 0.5 mV/m groundwave contour, both day and night, from co-channel stations and, in some cases, first-adjacent channel stations as well. They differ in how they believe Class A stations should be protected from nighttime skywave interference from other stations. Some propose nighttime protection of a Class A station's 0.5 mV/m groundwave contour based on the RSS values calculated for Class A stations in the continental United States, and further propose that the interfering contour should be the 0.025 mV/m-10 percent skywave contour based on single signal calculations. Others propose that Class A stations be protected to their nighttime 0.5 mV/m groundwave contours in a similar fashion to the way that Class B stations are currently protected to their 2.0 mV/m nighttime groundwave contours; they state that other stations making facility changes would have to show that they do not increase interference above the 0.5 mV/m groundwave contour, or the 50 percent exclusion RSS nighttime interference-free (NIF) level, if higher, of any Class A station; believing that this more fairly protects the actual interference-free service enjoyed by Class A AM stations, rather than the theoretical service being protected by the current rules or the Commission's proposed rules. These commenters, however, do not all agree with the Commission's proposal to eliminate critical hours protection to Class A AM stations, favoring instead protection to the Class A stations' 0.5 mV/m groundwave contours during those hours.

7. In the *Second FNPRM*, the Commission now seeks further comment on revised proposals for amending protections to Class A AM stations. Some commenters purport to demonstrate that protection of the 0.1 mV/m contour as proposed in the *AMR FNPRM* would be excessive because a 0.1 mV/m signal cannot be heard under current noise conditions and suggest

that it is only necessary to protect Class A stations to their 0.5 mV/m groundwave contour. However, other commenters disagree. The Commission seeks further comment on this determination.

8. Moreover, commenters argue that some skywave protection of Class A stations is desirable. The Commission therefore seeks comment on revised proposals for amending protections to Class A AM stations, which include alternative protection standards for critical hours and nighttime hours. These alternative protection standards are proposed as revisions to the proposed rules set forth at 81 FR 2818, Jan. 19, 2016. The following proposals all provide Class A stations with less protection than they currently enjoy; in the case of the critical hours proposals, Alternative 1 provides Class A stations with less protection than does Alternative 2, and in the case of the nighttime protection proposals, Alternative 2 in some cases provides Class A stations with less protection than does Alternative 1:

*Daytime hours proposal:*

- During daytime hours, Class A AM stations are protected to their 0.5 mV/m daytime groundwave contour, from both co-channel and first-adjacent channel stations;

*Critical hours proposals:*

- *Alternative 1:* During critical hours, Class A AM stations are afforded no protection from other AM stations, as proposed in the *AMR NPRM* (no change to current 47 CFR 73.99), or
- *Alternative 2:* During critical hours, Class A AM stations are protected to their 0.5 mV/m groundwave contour (revise 47 CFR 73.99);

*Nighttime hours proposals:*

- *Alternative 1:* During nighttime hours, there may be no overlap between a Class A AM station's 0.5 mV/m nighttime groundwave contour and any interfering AM station's 0.025 mV/m 10 percent skywave contour (calculated using the single station method); or
- *Alternative 2:* During nighttime hours, Class A AM stations are protected from other AM stations in the same manner as Class B AM stations are protected, that is, interference may not be increased above the greater of the 0.5 mV/m nighttime groundwave contour or the 50 percent exclusion RSS NIF level (calculated using the multiple station method).

9. The Commission seeks comment on these alternative proposals and asks once again for the comments to address those issues set forth in the *AMR FNPRM* concerning the effects on licensees and listeners of each type of station that could result from the combination of reduced protection to Class A stations and power increases by co- and adjacent-channel stations that this proposal would allow. The Commission also asks that commenters be mindful of the engineering comments already submitted concerning the calculation of listener interference, and, with this in mind, requests realistic estimates of the numbers of listeners that may lose primary service, as opposed to secondary or sporadic service, under each of the alternatives. Is there common agreement that protection of the 0.1 mV/m contour is excessive because a 0.1 mV/m signal cannot be heard under current noise conditions or are there studies to the contrary? Is the appropriate level of protection to the 0.5 mV/m groundwave contour? Likewise, the Commission seeks realistic estimates of the populations that could receive new primary local service, especially nighttime service, under each of these alternatives. It also seeks comment on whether its statutory authority imposes any limitations on implementation of these proposals, and

whether such implementation is consistent with the public interest. Finally, the Commission asks for comment on the effect of these proposals on AM broadcasters that are small entities and seek comment as to alternatives that would minimize burdens on such small entities.

10. The Commission also asked for specific comments addressing the effect of these proposals, if any, on the functioning of the Emergency Alert System (EAS) and IPAWS.

FEMA's IPAWS Office noted in comments that twenty-five Class A stations are Primary Entry Point (PEP) stations, and stated that under certain circumstances, the Commission's original proposal would diminish the reach of EAS alerts from these stations. The Commission sought comment as to the effect of its alternative proposals on emergency communications. In particular, it requested that any such evaluation include specifics as to what effect, if any, our proposals would have on the ability of other radio stations to receive EAS alerts from Class A stations that function as PEPs. It asked commenters to identify the affected stations and the populations covered by such stations to the extent possible. Such comments should also include an evaluation of the current reliability of Class A nighttime skywave service in providing emergency communications to distant listeners and to other radio stations that are not PEPs, compared to the expected reliability and reach of such communications if any of the alternative proposals are adopted. Commenters were also asked to address the potential benefits during emergencies of having more local service on the AM band available to listeners.

11. The *AMR FNPRM* also included a tentative conclusion to roll back 1991 rule changes pertaining to calculation of nighttime RSS values of interfering field strengths and nighttime interference-free service. 30 FCC Rcd at 12170-73. It also proposed a return to predicting the nighttime interference-free coverage area using only the interference contributions from co-channel stations and the 50 percent exclusion method. *Id.* at 12172. The *AMR FNPRM*



also included a proposed revision to daytime protection to Class B, C, and D AM stations, to return to the pre-1991 0 dB daytime 1:1 protection ratio for first adjacent channels; change second adjacent channel groundwave protection to match the current levels for third adjacent channel protection; and eliminate third adjacent channel groundwave protection. Additionally, the *AMR FNPRM* included a proposal to change the daytime protected contour for Class B, C, and D stations to the 2.0 mV/m contour. These proposals were intended to allow AM broadcasters greater flexibility to make station modifications designed to increase signal strength to their primary service areas.

12. While not revising these proposals at this time, the Commission requested that in light of the alternative Class A protection proposals set forth above, commenters state whether they would revise their previously submitted comments regarding calculation of RSS values and changes to Class B, C, and D daytime protection and, if so, in what way and for what reasons. Commenters should consider the proposed revisions to AM station protection in terms of a new system designed to maximize local radio service without unduly jeopardizing wide-area service.

13. The Commission thus sought comment on the rule changes proposed above, including the costs and benefits associated with the various proposals. It also sought comment on the costs and benefits of any other alternative approaches to addressing the issues raised in the record. To the extent possible, commenters should quantify the claimed costs and benefits and provide supporting information.

#### **Comments and Reply Comments.**

14. Pursuant to §§ 1.415 and 1.419 of the Commission's rules, 47 CFR 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using the Commission's Electronic

Comment Filing System (ECFS). *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

- All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12<sup>th</sup> Street, SW, Room TW-A325, Washington, DC 20554. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of *before* entering the building.
- Commercial Mail sent by overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.
- U.S. Postal Service first-class, Express, and Priority mail should be addressed to 445 12<sup>th</sup> Street, SW, Washington, DC 20554.

## **PROCEDURAL MATTERS**

### ***Ex Parte* Rules.**

15. This proceeding shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules. 47 CFR 1.1200 *et seq.* Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other

filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with 47 CFR 1.1206(b). In proceedings governed by 47 CFR 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (*e.g.*, .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

#### **Initial Regulatory Flexibility Analysis.**

16. The Regulatory Flexibility Act of 1980, as amended (RFA), requires that a regulatory flexibility analysis be prepared for notice and comment rule making proceedings, unless the agency certifies that “the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities.” The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.” In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act. A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).

17. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),<sup>1</sup> the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible

---

<sup>1</sup> See 5 U.S.C. 603. The RFA, *see* 5 U.S.C. 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub.L. 104-121, Title II, 110 Stat. 857 (1996).

significant economic impact on a substantial number of small entities by the policies proposed in the *Second FNPRM*. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *Second FNPRM* provided in paragraph 18. The Commission will send a copy of this entire *Second FNPRM*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA). 5 U.S.C. 603(a). In addition, the *Second FNPRM* and the IRFA (or summaries thereof) will be published in the **Federal Register**. *Id.*

#### **Need For, and Objectives of, the Proposed Rules.**

18. This rulemaking proceeding is initiated to obtain further comments concerning certain proposals designed to revitalize the AM broadcast radio service. It is based in substantial part on proposals raised by commenters in this rulemaking proceeding, in response to the Commission's call in the original *NPRM* in this proceeding for further ideas and proposals.

19. Specifically, the Commission seeks comment on the following: (1) whether to change the nighttime and critical hours signal protection to Class A AM stations, based on new alternative proposals; (2) whether to change the methodology for calculating nighttime root sum square (RSS) values, based on the new alternative proposals for protection to Class A AM stations; and (3) whether to change daytime signal protection to Class B, C, and D stations, based on the new alternative proposals for protection to Class A AM stations.

#### **Legal Basis.**

20. The authority for this proposed rulemaking is contained in sections 1, 2, 4(i), 301, 303(r), 307, 316, and 403 of the Communications Act of 1934, 47 U.S.C 151, 152, 154(i), 301, 303(r), 307, 316, and 403.

**Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply.**

21. The RFA directs the Commission to provide a description of and, where feasible, an estimate of the number of small entities that will be affected by the proposed rules. 5 U.S.C. 603(b)(3). The RFA generally defines the term "small entity" as encompassing the terms "small business," "small organization," and "small governmental entity." *Id.* section 601(6). In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act. *Id.* section 601(3). A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA). 15 U.S.C. 632.

**Radio Stations.**

22. The proposed rules and policies could apply to AM radio broadcast licensees, and potential licensees of the AM radio service. A radio broadcasting station is an establishment primarily engaged in broadcasting aural programs by radio to the public. *Id.* Included in this industry are commercial, religious, educational, and other radio stations. *Id.* Radio broadcasting stations which primarily are engaged in radio broadcasting and which produce radio program materials are similarly included. *Id.* However, radio stations that are separate establishments and are primarily engaged in producing radio program material are classified under another NAICS number. *Id.* The SBA has established a small business size standard for this category, which is: firms having \$38.5 million or less in annual receipts. 13 CFR 121.201, NAICS Code 515112 (updated for inflation in 2008). According to the BIA/Kelsey, MEDIA Access Pro Database on May 14, 2018, 4,630 (99.94%) of 4,633 AM radio stations have revenues of \$38.5 million or less. Therefore, the majority of such entities are small entities. We note, however,

that, in assessing whether a business concern qualifies as small under the above definition, business (control) affiliations must be included. Our estimate, therefore, likely overstates the number of small entities that might be affected by our action, because the revenue figure on which it is based does not include or aggregate revenues from affiliated companies.

23. In addition, an element of the definition of “small business” is that the entity not be dominant in its field of operation. We are unable at this time to define or quantify the criteria that would establish whether a specific radio station is dominant in its field of operation. Accordingly, the estimate of small businesses to which rules may apply do not exclude any radio station from the definition of a small business on this basis and therefore may be over-inclusive to that extent. Also as noted, an additional element of the definition of “small business” is that the entity must be independently owned and operated. We note that it is difficult at times to assess these criteria in the context of media entities and our estimates of small businesses to which they apply may be over-inclusive to this extent.

#### **Description of Projected Reporting, Recordkeeping and Other Compliance Requirements.**

24. The proposed rule and procedural changes may, in some cases, impose different reporting, recordkeeping, or other requirements on existing and potential AM radio licensees and permittees. In the case of proposed changes to the technical rules regarding calculation of daytime and nighttime interfering contours, and changes to daytime, nighttime, and critical hours protection to some stations, there would be changes in the calculation of inter-station interference and reporting of same. However, the information to be filed is already familiar to broadcasters, and the nature of the interference calculations would not change, only the values that are acceptable, so any additional burdens would be minimal.

**Steps Taken to Minimize Significant Impact on Small Entities, and Significant Alternatives Considered.**

25. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.<sup>2</sup> In the *Second FNPRM*, the Commission seeks to assist AM broadcasters by changing certain daytime, nighttime, and critical hours interference protection standards as they apply to certain classes of AM stations. The Commission seeks comment as to whether its goal of revitalizing the AM service could be effectively accomplished through these means. The Commission is open to consideration of alternatives to the proposals under consideration, as set forth herein, including but not limited to alternatives that will minimize the burden on AM broadcasters, most of which are small businesses. There may be unique circumstances these entities may face, and we will consider appropriate action for small broadcasters when preparing a Fourth Report and Order in this matter.

**Federal Rules Which Duplicate, Overlap, or Conflict With, the Commission's Proposals.**

26. None.

27. To request materials in accessible formats for people with disabilities (Braille,

---

<sup>2</sup> 5 U.S.C. 603(b).

large print, electronic files, audio format), send an e-mail to [fcc504@fcc.gov](mailto:fcc504@fcc.gov) or call the Consumer and Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (TTY).

## **ORDERING CLAUSE**

28. Accordingly, IT IS ORDERED that, pursuant to the authority contained in sections 1, 2, 4(i), 301, 303(r), 307, 316, and 403 of the Communications Act of 1934, as amended, 47 U.S.C. 151, 152, 154(i), 301, 303(r), 307, 316, and 403, this Second Further Notice of Proposed Rule Making **IS ADOPTED**.

## **List of Subjects**

### **47 CFR Part 73**

Communications equipment, Radio, Reporting and recordkeeping requirements.

### **47 CFR Part 74**

Communications equipment, Radio.

FEDERAL COMMUNICATIONS COMMISSION

Cecilia Sigmund,  
*Federal Register Liaison,*  
*Office of the Secretary.*



## **Proposed Rules**

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR part 73 as follows:

### **PART 73—RADIO BROADCAST SERVICES**

1. The authority citation for part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 155, 301, 303, 307, 309, 310, 334, 336, 339.

2. Amend § 73.21 by revising the last two sentences of paragraph (a) introductory text and paragraph (a)(1) to read as follows:

#### **§ 73.21 Classes of AM broadcast channels and stations.**

(a) \* \* \* These stations are protected from objectionable interference within their primary service areas. Stations operating on these channels are classified as follows:

(1) *Class A Station.* A Class A station is an unlimited time station that operates on a clear channel and is designed to render primary service over an extended area at relatively long distances from its transmitter. Its primary service area is protected from objectionable interference from other stations on the same and adjacent channels. (See §73.182). The operating power shall not be less than 10 kW nor more than 50 kW. (Also see §73.25(a)).

\* \* \* \* \*

#### **§ 73.24 [Amended]**

3. Amend § 73.24 as follows:

Option 1: Amend § 73.24 by removing paragraph (h) and redesignating paragraphs (i) and (j) as paragraphs (h) and (i).

Option 2: Amend § 73.24 by revising paragraph (h) to read as follows:

**§ 73.24 Broadcast facilities; showing required.**

\* \* \* \* \*

(h) That, in the case of an application for a Class B or Class D station on a clear channel, the proposed station would radiate, during two hours following local sunrise and two hours preceding local sunset, in any direction toward the 0.5 mV/m groundwave contour of a co-channel United States Class A station, no more than the maximum value permitted under the provisions of § 73.187.

\* \* \* \* \*

4. Amend § 73.37 by revising the table in paragraph (a) to read as follows:

**§ 73.37 Applications for broadcast facilities, showing required.**

(a) \* \* \*

<b>Frequency Separation (kHz)</b>	<b>Contour of proposed station (classes B, C and D) (mV/m)</b>	<b>Contour of any other station (mV/m)</b>
0	0.025	0.500 (Class A)
	0.5	0.025 (Class A)
	0.100	2.0 (Other classes)
	2.0	0.100 (Other classes)
10	0.500	0.500 (Class A)
	2.0	2.0 (Other classes)
20	25.0	25.0 (All classes)

\* \* \* \* \*

5. Amend § 73.99 by revising paragraphs (b)(2) and (3), (c)(1)(ii) and (iii), (d)(2) and (3), (f)(1) and (3) to read as follows:

**§ 73.99 Presunrise service authorization (PSRA) and postsunset service authorization (PSSA).**

\* \* \* \* \*

(b) \* \* \*

(2) Class D stations situated outside the 0.5 mV/m nighttime groundwave contours of co-channel U.S. Class A stations to commence PSRA operation at 6 a.m. local time and to continue such operation until sunrise times specified in their basic instruments of authorization.

(3) Class D stations located within the co-channel 0.5 mV/m groundwave contours of U.S. Class A stations, to commence PSRA operation either at 6 a.m. local time, or at sunrise at the nearest Class A station located east of the Class D station (whichever is later), and to continue such operation until the sunrise times specified in their basic instruments of authorization.

\* \* \* \* \*

(c) \* \* \*

(1) \* \* \*

(ii) Protection is to be provided to the 0.5 mV/m groundwave contours of co-channel U.S. Class A stations or the NIF groundwave contour based on the 50 percent RSS exclusion method, whichever is greater.

(iii) In determining the protection to be provided, the effect of each interfering signal will be evaluated such that interference may not be increased above the 0.5 mV/m nighttime

groundwave contour or the NIF groundwave contour based on the 50 percent RSS exclusion method, whichever is greater.

\* \* \* \* \*

(d) \* \* \*

(2) Class D stations situated outside the 0.5 mV/m groundwave contours of co-channel U.S. Class A stations to commence PSSA operations at sunset times specified in their basic instruments of authorization and to continue for two hours after such specified times.

(3) Class D stations located within the co-channel 0.5 mV/m groundwave contours of U.S. Class A stations to commence PSSA operation at sunset times specified in their basic instruments of authorization and to continue such operation until two hours past such specified times, or until sunset at the nearest Class A station located west of the Class D station, whichever is earlier. Class D stations located west of the Class A station do not qualify for PSSA operation.

\* \* \* \* \*

(f) \* \* \*

(1) Class D stations operating in accordance with paragraphs (b)(1) and (2), (d)(1) and (2) of this section are required to protect the 0.5 mV/m groundwave contours or the NIF groundwave contour of co-channel Class A stations based on the 50 percent RSS exclusion method, whichever is greater.

\* \* \* \* \*

(3) Class D stations operating in accordance with paragraphs (d)(2) and (3) of this section are required to limit the extent of the 0.025 mV/m skywave 10% contour to the co-channel Class A 0.5 mV/m ground wave or the NIF groundwave contour based on the 50%-RSS exclusion method, whichever is greater. The location of the 0.5 mV/m contour or the NIF contour of a

Class A station will be determined by use of Figure M3, *Estimated Ground Conductivity in the United States*. When the 0.5 mV/m contour extends beyond the national boundary, the international boundary shall be considered the 0.5 mV/m contour.

\* \* \* \* \*

#### **§ 73.182 [Amended]**

6. Amend § 73.182 as follows:

Option 1: Amend § 73.182 by:

- a. Revising paragraphs (a)(1) through (3), (c) and (d);
- b. Removing paragraphs (g) and (h);
- c. Redesignating paragraphs (i) through (t) as paragraphs (g) through (r); and
- d. Revising newly redesignated paragraphs (i) and (j), (m)(1), and the tables in paragraphs (o) and (p).

The revisions read as follows:

#### **§ 73.182 Engineering standards of allocation.**

(a) \* \* \*

(1) Class A stations operate on clear channels with powers between 10 kW and 50 kW.

These stations are designed to render primary service over a large area protected from objectionable interference from other stations on the same and adjacent channels. Class A stations may be divided into two groups: those located in any of the conterminous United States and those located in Alaska.

(i) Class A stations in the conterminous United States operate on the channels assigned by §73.25 with minimum power of 10 kW, maximum power of 50 kW, and minimum antenna

efficiency of 275 mV/m/kW at 1 kilometer. The Class A stations in this group are afforded protection as follows:

(A) Daytime. To the 0.5 mV/m groundwave contour from stations on the same or adjacent channels.

(B) Nighttime. There shall be no overlap between the Class A station's 0.5 mV/m nighttime groundwave contour and any interfering AM station's 0.025 mV/m-10 % skywave contour, calculated based on a single station method.

(ii) Class A stations in Alaska operate on the channels assigned by §73.25 with minimum power of 10 kW, maximum power of 50 kW, and minimum antenna efficiency of 215 mV/m/kW at 1 kilometer. The Class A stations in this group are afforded protection, both daytime and nighttime, to the 0.1 mV/m groundwave contour from other co-channel stations and to the 0.5 mV/m groundwave contour from other stations on first adjacent channels.

(2) Class B stations are stations which operate on clear and regional channels with powers not less than 0.25 kW or greater than 50 kW. These stations render primary service, the area of which depends on their geographic location, power, and frequency. It is recommended that Class B stations be located so that the interference received from other stations will not limit the service area to a groundwave contour value greater than 2.0 mV/m groundwave contour both daytime and nighttime, which are the values for the mutual protection between this class of stations and other stations of the same class.

NOTE: \* \* \*

(3) Class C stations operate on local channels, normally rendering primary service to a community and the suburban or rural areas immediately contiguous thereto, with powers not less than 0.25 kW or greater than 1 kW, except as provided in §73.21(c)(1). Such stations are

normally protected to the daytime 2.0 mV/m contour. On local channels the separation required for the daytime protection shall also determine the nighttime separation. Where directional antennas are employed daytime by Class C stations operating with power equal to or greater than 0.25 kW, the separations required shall in no case be less than those necessary to afford protection assuming nondirectional operation with power of 0.25 kW. In no case will nighttime power of 0.25 kW or greater be authorized to a station unable to operate nondirectionally with power of 0.25 kW during daytime hours. The actual nighttime limitation will be calculated. For nighttime protection purposes, Class C stations in the 48 conterminous United States may assume that stations in Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands operating on 1230, 1240, 1340, 1400, 1450, and 1490 kHz are Class C stations.

\* \* \* \* \*

(c) All classes of AM broadcast stations have in general three types of service areas, i.e., primary, secondary and intermittent. (See §73.14 for the definitions of primary, secondary and intermittent service areas.) All classes of AM stations render service to a primary area but the secondary and intermittent service areas may be materially limited or destroyed due to interference from other stations, depending on the station assignments involved.

(d) The groundwave signal strength required to render primary service is 2 mV/m for communities with populations of 2,500 or more and 0.5 mV/m for communities with populations of less than 2,500. Because only Class A stations have protected primary service extending beyond the 2 mV/m contour, the groundwave signal strength constituting primary service for Class A stations is that set forth in paragraphs (a)(1)(i) and (ii) of this section. See § 73.184 for curves showing distance to various groundwave field strength contours for different frequencies and ground conductivities, and also see §73.183, "Groundwave signals."

\* \* \* \* \*

(i) Objectionable nighttime interference from a broadcast station occurs when, at a specified field strength contour with respect to the desired station, the field strength of an undesired co-channel station exceeds for 10% or more of the time the values set forth in these standards. The value derived from the root-sum-square of all interference contributions represents the extent of a station's interference-free coverage.

(1) With respect to the root-sum-square (RSS) values of interfering field strengths referred to in this section, calculation of nighttime interference-free service is accomplished by considering co-channel signals in order of decreasing magnitude, adding the squares of the values and extracting the square root of the sum, excluding those signals which are less than 50% of the RSS values of the higher signals already included. This is known as the "50% Exclusion Method."

(2) The RSS value will not be considered to be increased when a new interfering signal is added which is less than the appropriate exclusion percentage as applied to the RSS value of the interference from existing stations, and which at the same time is not greater than the smallest signal included in the RSS value of interference from existing stations.

(3) It is recognized that application of the 50% Exclusion Method for calculating the RSS interference may result in some cases in anomalies wherein the addition of a new interfering signal or the increase in value of an existing interfering signal will cause the exclusion of a previously included signal and may cause a decrease in the calculated RSS value of interference. In order to provide the Commission with more realistic information regarding gains and losses in service (as a basis for determination of the relative merits of a proposed operation) the following



alternate method for calculating the proposed RSS values of interference will be employed wherever applicable.

(4) In cases where it is proposed to add a new interfering signal which is not less than 50% of the RSS value of interference from existing stations or which is greater than the smallest signal already included to obtain this RSS value, the RSS limitation after addition of the new signal shall be calculated without excluding any signal previously included. Similarly, in cases where it is proposed to increase the value of one of the existing interfering signals which has been included in the RSS value, the RSS limitation after the increase shall be calculated without excluding the interference from any source previously included.

(5) If the new or increased signal proposed in such cases is ultimately authorized, the RSS values of interference to other stations affected will thereafter be calculated by the 50% Exclusion Method without regard to this alternate method of calculation.

(6) Examples of RSS interference calculations:

(i) Existing interferences:

Station No. 1—1.00 mV/m.

Station No. 2—0.60 mV/m.

Station No. 3—0.59 mV/m.

Station No. 4—0.58 mV/m.

The RSS value from Nos. 1, 2 and 3 is 1.31 mV/m; therefore interference from No. 4 is excluded for it is less than 50% of 1.31 mV/m.

(ii) Station A receives interferences from:

Station No. 1—1.00 mV/m.

Station No. 2—0.60 mV/m.

Station No. 3—0.59 mV/m.

It is proposed to add a new limitation, 0.68 mV/m. This is more than 50% of 1.31 mV/m, the RSS value from Nos. 1, 2 and 3. The RSS value of Station No. 1 and of the proposed station would be 1.21 mV/m which is more than twice as large as the limitation from Station No. 2 or No. 3. However, under the above provision the new signal and the three existing interferences are nevertheless calculated for purposes of comparative studies, resulting in an RSS value of 1.47 mV/m. However, if the proposed station is ultimately authorized, only No. 1 and the new signal are included in all subsequent calculations for the reason that Nos. 2 and 3 are less than 50% of 1.21 mV/m, the RSS value of the new signal and No. 1.

(iii) Station A receives interferences from:

Station No. 1—1.00 mV/m.

Station No. 2—0.60 mV/m.

Station No. 3—0.59 mV/m.

No. 1 proposes to increase the limitation it imposes on Station A to 1.21 mV/m. Although the limitations from stations Nos. 2 and 3 are less than 50% of the 1.21 mV/m limitation, under the above provision they are nevertheless included for comparative studies, and the RSS limitation is calculated to be 1.47 mV/m. However, if the increase proposed by Station No. 1 is authorized, the RSS value then calculated is 1.21 mV/m because Stations Nos. 2 and 3 are excluded in view of the fact that the limitations they impose are less than 50% of 1.21 mV/m.

(j) Objectionable nighttime interference from a station shall be considered to exist to a station when, at the field strength contour specified in paragraph (o) of this section with respect to the class to which the station belongs, the field strength of an interfering station operating on

the same channel exceeds for 10% or more of the time the value of the permissible interfering signal set forth opposite such class in paragraph (o) of this section.

\* \* \* \* \*

(m) *Computation of skywave field strength values:—*(1) *Fifty percent skywave field strength values.* To compute fifty percent skywave field strength values, Formula 1 of § 73.190, entitled “Skywave field strength, 50% of the time (at SS+6)” shall be used.

\* \* \* \* \*

(o) \* \* \*

Class of station	Class of channel used	Signal strength contour of area protected from objectionable interference (μV/m)		Permissible interfering signal (μV/m)	
		Day <sup>1</sup>	Night <sup>1</sup>	Day <sup>1</sup>	Night <sup>2</sup>
A	Clear	SC 500	SC 500	SC 25	SC 25
		AC 500	AC 500	AC 500	AC 500
B	Regional	SC 2000	SC 2000	SC 100	Not presc.
		AC 2000	AC 2000	AC 2000	Not presc.
C	Local	2000	Not presc. <sup>3</sup>	SC 100	Not presc.
D	Regional	2000	Not presc.	SC 100	Not presc.
				AC 2000	Not presc.

<sup>1</sup> Groundwave.

<sup>2</sup> Skywave field strength for 10 percent or more of the time.

<sup>3</sup> During nighttime hours, Class C stations in the contiguous 48 States may treat all Class B stations assigned to 1230, 1240, 1340, 1400, 1450, and 1490 kHz in Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands as if they were Class C stations.

Note: SC = Same channel; AC = Adjacent channel; SW = Skywave; GW = Groundwave

(p) \* \* \*

Frequency separation of desired to undesired signals (kHz)	Desired Groundwave to:	
	Undesired groundwave (dB)	Undesired 10% Skywave (dB)
0	26	26
10	0	0

\* \* \* \* \*

Option 2: Amend § 73.182 by:

- Revising paragraphs (a)(1) through (3), (c) and (d);
- Removing paragraphs (g) and (h);
- Redesignating paragraphs (i) through (t) as paragraphs (g) through (r); and
- Revising newly redesignated paragraphs (i) and (j), (m)(1), and the tables in paragraphs (o) and (p).

The revisions read as follows:

**§ 73.182 Engineering standards of allocation.**

(a) \* \* \*

(1) Class A stations operate on clear channels with powers between 10 kW and 50 kW. These stations are designed to render primary service over a large area protected from objectionable interference from other stations on the same and adjacent channels. Class A stations may be divided into two groups: those located in any of the conterminous United States and those located in Alaska.

(i) Class A stations in the conterminous United States operate on the channels assigned by § 73.25 with minimum power of 10 kW, maximum power of 50 kW, and minimum antenna efficiency of 275 mV/m/kW at 1 kilometer. The Class A stations in this group are afforded protection as follows:

(A) Daytime. To the 0.5 mV/m groundwave contour from stations on the same or adjacent channels.

(B) Nighttime. Interference may not be increased above the 0.5 mV/m nighttime groundwave contour or the NIF groundwave contour based on the 50 percent RSS exclusion method, whichever is greater.

(ii) Class A stations in Alaska operate on the channels assigned by § 73.25 with minimum power of 10 kW, maximum power of 50 kW, and minimum antenna efficiency of 215 mV/m/kW at 1 kilometer. The Class A stations in this group are afforded protection, both daytime and nighttime, to the 0.1 mV/m groundwave contour from other stations on the same channel and to the 0.5 mV/m groundwave contour from other stations on first adjacent channels.

(2) Class B stations are stations which operate on clear and regional channels with powers not less than 0.25 kW or greater than 50 kW. These stations render primary service, the area of which depends on their geographic location, power, and frequency. It is recommended that Class B stations be located so that the interference received from other stations will not limit

the service area to a groundwave contour value greater than 2.0 mV/m groundwave contour both daytime and nighttime, which are the values for the mutual protection between this class of stations and other stations of the same class.

Note: \* \* \*

(3) Class C stations operate on local channels, normally rendering primary service to a community and the suburban or rural areas immediately contiguous thereto, with powers not less than 0.25 kW or greater than 1 kW, except as provided in § 73.21(c)(1). Such stations are normally protected to the daytime 2.0 mV/m contour. On local channels the separation required for the daytime protection shall also determine the nighttime separation. Where directional antennas are employed daytime by Class C stations operating with power equal to or greater than 0.25 kW, the separations required shall in no case be less than those necessary to afford protection assuming nondirectional operation with power of 0.25 kW. In no case will nighttime power of 0.25 kW or greater be authorized to a station unable to operate nondirectionally with power of 0.25 kW during daytime hours. The actual nighttime limitation will be calculated. For nighttime protection purposes, Class C stations in the 48 conterminous United States may assume that stations in Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands operating on 1230, 1240, 1340, 1400, 1450, and 1490 kHz are Class C stations.

\* \* \* \* \*

(c) All classes of AM broadcast stations have in general three types of service areas, i.e., primary, secondary and intermittent. (See §73.14 for the definitions of primary, secondary and intermittent service areas.) All classes of AM stations render service to a primary area but the secondary and intermittent service areas may be materially limited or destroyed due to interference from other stations, depending on the station assignments involved.

(d) The groundwave signal strength required to render primary service is 2 mV/m for communities with populations of 2,500 or more and 0.5 mV/m for communities with populations of less than 2,500. Because only Class A stations have protected primary service extending beyond the 2 mV/m contour, the groundwave signal strength constituting primary service for Class A stations is that set forth in paragraphs (a)(1)(i) and (ii) of this section. See § 73.184 for curves showing distance to various groundwave field strength contours for different frequencies and ground conductivities, and also see § 73.183, "Groundwave signals."

\* \* \* \* \*

(i) Objectionable nighttime interference from a broadcast station occurs when, at a specified field strength contour with respect to the desired station, the field strength of an undesired co-channel station exceeds for 10% or more of the time the values set forth in these standards. The value derived from the root-sum-square of all interference contributions represents the extent of a station's interference-free coverage.

(1) With respect to the root-sum-square (RSS) values of interfering field strengths referred to in this section, calculation of nighttime interference-free service is accomplished by considering co-channel signals in order of decreasing magnitude, adding the squares of the values and extracting the square root of the sum, excluding those signals which are less than 50% of the RSS values of the higher signals already included. This is known as the "50% Exclusion Method."

(2) The RSS value will not be considered to be increased when a new interfering signal is added which is less than the appropriate exclusion percentage as applied to the RSS value of the interference from existing stations, and which at the same time is not greater than the smallest signal included in the RSS value of interference from existing stations.

(3) It is recognized that application of the 50% Exclusion Method for calculating the RSS interference may result in some cases in anomalies wherein the addition of a new interfering signal or the increase in value of an existing interfering signal will cause the exclusion of a previously included signal and may cause a decrease in the calculated RSS value of interference. In order to provide the Commission with more realistic information regarding gains and losses in service (as a basis for determination of the relative merits of a proposed operation) the following alternate method for calculating the proposed RSS values of interference will be employed wherever applicable.

(4) In cases where it is proposed to add a new interfering signal which is not less than 50% of the RSS value of interference from existing stations or which is greater than the smallest signal already included to obtain this RSS value, the RSS limitation after addition of the new signal shall be calculated without excluding any signal previously included. Similarly, in cases where it is proposed to increase the value of one of the existing interfering signals which has been included in the RSS value, the RSS limitation after the increase shall be calculated without excluding the interference from any source previously included.

(5) If the new or increased signal proposed in such cases is ultimately authorized, the RSS values of interference to other stations affected will thereafter be calculated by the 50% Exclusion Method without regard to this alternate method of calculation.

(6) Examples of RSS interference calculations:

(i) Existing interferences:

Station No. 1—1.00 mV/m.

Station No. 2—0.60 mV/m.

Station No. 3—0.59 mV/m.



Station No. 4—0.58 mV/m.

The RSS value from Nos. 1, 2 and 3 is 1.31 mV/m; therefore interference from No. 4 is excluded for it is less than 50% of 1.31 mV/m.

(ii) Station A receives interferences from:

Station No. 1—1.00 mV/m.

Station No. 2—0.60 mV/m.

Station No. 3—0.59 mV/m.

It is proposed to add a new limitation, 0.68 mV/m. This is more than 50% of 1.31 mV/m, the RSS value from Nos. 1, 2 and 3. The RSS value of Station No. 1 and of the proposed station would be 1.21 mV/m which is more than twice as large as the limitation from Station No. 2 or No. 3. However, under the above provision the new signal and the three existing interferences are nevertheless calculated for purposes of comparative studies, resulting in an RSS value of 1.47 mV/m. However, if the proposed station is ultimately authorized, only No. 1 and the new signal are included in all subsequent calculations for the reason that Nos. 2 and 3 are less than 50% of 1.21 mV/m, the RSS value of the new signal and No. 1.

(iii) Station A receives interferences from:

Station No. 1—1.00 mV/m.

Station No. 2—0.60 mV/m.

Station No. 3—0.59 mV/m.

No. 1 proposes to increase the limitation it imposes on Station A to 1.21 mV/m. Although the limitations from stations Nos. 2 and 3 are less than 50% of the 1.21 mV/m limitation, under the above provision they are nevertheless included for comparative studies, and the RSS limitation is calculated to be 1.47 mV/m. However, if the increase proposed by Station No. 1 is authorized,

the RSS value then calculated is 1.21 mV/m because Stations Nos. 2 and 3 are excluded in view of the fact that the limitations they impose are less than 50% of 1.21 mV/m.

(j) Objectionable nighttime interference from a station shall be considered to exist to a station when, at the field strength contour specified in paragraph (o) of this section with respect to the class to which the station belongs, the field strength of an interfering station operating on the same channel exceeds for 10% or more of the time the value of the permissible interfering signal set forth opposite such class in paragraph (o) of this section.

\* \* \* \* \*

(m) *Computation of skywave field strength values:—*(1) *Fifty percent skywave field strength values.* To compute fifty percent skywave field strength values, Formula 1 of § 73.190, entitled “Skywave field strength, 50% of the time (at SS+6)” shall be used.

\* \* \* \* \*

(o) \* \* \*

Class of station	Class of channel used	Signal strength contour of area protected from objectionable interference (μV/m)		Permissible interfering signal (μV/m)	
		Day <sup>1</sup>	Night <sup>1</sup>	Day <sup>1</sup>	Night <sup>2</sup>
A	Clear	SC 500	SC 500 <sup>3</sup>	SC 25	SC 25
		AC 500	AC 500	AC 500	AC 500
B	Regional	SC 2000	SC 2000	SC 100	Not presc.
		AC 2000	AC 2000	AC 2000	Not presc.
C	Local	2000	Not presc. <sup>3</sup>	SC 100	Not presc.
D	Regional	2000	Not presc.	SC 100	Not presc.
				AC 2000	Not presc.

<sup>1</sup> Groundwave.

<sup>2</sup> Skywave field strength for 10 percent or more of the time.

<sup>3</sup> Class A AMs are protected such that interference may not be increased above the greater of the 0.5 mV/m nighttime ground wave contour or the 50% exclusion RSS NIF level.

<sup>4</sup> During nighttime hours, Class C stations in the contiguous 48 States may treat all Class B stations assigned to 1230, 1240, 1340, 1400, 1450, and 1490 kHz in Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands as if they were Class C stations.

Note: SC = Same channel; AC = Adjacent channel; SW = Skywave; GW = Groundwave

(p) \* \* \*

Frequency separation of desired to undesired signals (kHz)	Desired Groundwave to:	
	Undesired groundwave (dB)	Undesired 10% Skywave (dB)
0	26	26
10	0	0

\* \* \* \* \*

#### **§ 73.187 [Amended]**

7. In paragraphs (a)(1), (2)(ii), and (3) remove all references to “0.1 mV/m” and add in their place “0.5 mV/m”.

#### **§ 73.190 [Amended]**

8. In paragraph (e), on right-hand side of Figures 9, 10, and 11, remove the axis label

“Distance from 0.1 mV/m Contour in Miles” and add in its place “Distance from 0.5 mV/m Contour in Miles.”

[FR Doc. 2018-25101 Filed: 11/19/2018 8:45 am; Publication Date: 11/20/2018]